

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in this divisional application. Added text is indicated by underlining, and deleted text is indicated by ~~strikethrough~~. Changes are identified by vertical change bars in the left margin.

LISTING OF CLAIMS:

Claims 1-27. (Canceled)

28. (Original) An apparatus for use in alignment of projection imaging tools, the apparatus comprising:

a substrate that has alignment attributes that occur in interlocking rows and columns across the substrate; and

a calibration file associated with the substrate that indicates the position of the alignment attributes on the substrate.

29. (Original) An apparatus as defined in claim 28, wherein the calibration file is recorded onto a computer readable medium.

30. (Original) A method of using a reference wafer comprising:
loading the reference wafer, that includes overlay targets, onto an imaging machine;

loading and aligning an overlay reticle onto the imaging machine;

exposing the reference wafer with the overlay reticle;

developing the reference wafer;

measuring the overlay targets;

subtracting offset values, associated with the wafer, from the measurements; and
calculating errors of the machine.

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31. (Original) A method as defined in claim 30, wherein the machine is a stepper projection imaging system.

32. (Original) A method as defined in claim 30, wherein the machine is a scanning projection imaging system.

33. (Original) A method as defined in claim 30, wherein the machine is an electron beam imaging system.

34. (Original) A method as defined in claim 30, wherein the machine is an electron beam direct write system.

35. (Original) A method as defined in claim 30, wherein the machine is a SCAPEL tool.

36. (Original) A method as defined in claim 30, wherein the machine is an extreme ultra-violet imaging tool.

37. (Original) A method as defined in claim 30, wherein the machine is an ion projection imaging tool.

38. (Original) A method as defined in claim 30, wherein the machine is an x-ray imaging system.

49 39. (Currently Amended) A method as defined in claim 30, wherein the subtracting and calculating after performed on a computer.

50 40. (Currently Amended) A method as defined in claim 30, wherein the offset values associated with the reference wafer are stored in a calibration file.

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54 41. (Currently Amended) A method as defined in claim 50 40, wherein the calibration file is stored on a computer readable medium.

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